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A NEW SPECIES OF *RHOPALOPSOLE SHAANXIENSIS* SPECIES GROUP (PLECOPTERA, LEUCTRIDAE) FROM CHINA

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Abstract A species of the genus *Rhopalopsole*, *R. longtana* sp. nov., is described as new to science from China. Its relationship with the relative species is discussed. The type is deposited in the Entomological Museum of China Agricultural University, Beijing.

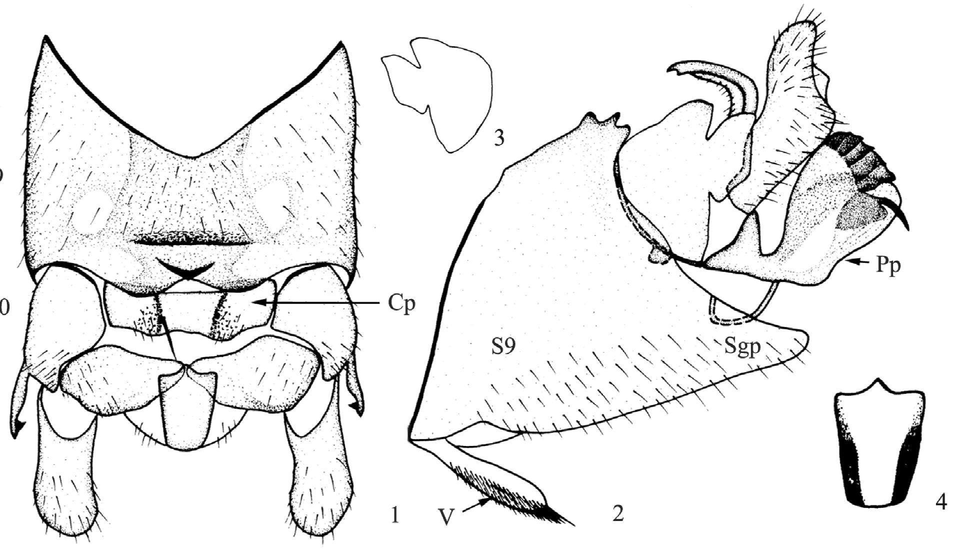
Key words Plecoptera, Leuctridae, *Rhopalopsole*, new species.

The genus *Rhopalopsole* is an Oriental endemic group of stonefly, which is characterized by a short subgenital plate, a pair of sclerotized lateral projections on tergum 10, and long cylindrical cercus in males (Zwick, 1977). The earlier Chinese species were described mainly by Klapálek (1912), Wu (1949, 1973), Yang, D and Yang, C-K (1991, 1993, 1995a & b), Yang, C-K and Yang, D (1991, 1994), Yang *et al.* (2004), and Yang and Li (2006). Sivec *et al.* (2008) recently reviewed the genus and described 13 new species from Oriental China. An additional Chinese species was just found from Sichuan Province by Li *et al.* (2010). In the present paper, a species of *Rhopalopsole* from Ningxia is described as new to science. The type material is deposited in the Entomological Museum of China Agricultural University, Beijing. Morphological terminology generally follows Sivec *et al.* (2008).

Rhopalopsole longtana sp. nov. (Figs 1 – 8)

Diagnosis. This species is defined by the male tergum 9 bearing a linearly sclerotized ridge, a sclerotized triangular mid-posterior spine, and two paramedian lobes at posterior margin. The epiproct has a rather wide apex and an apical spine medially.

Male. Forewing length 4.0 mm, hindwing length 3.3 mm. Head dark brown, slightly wider than pronotum; compound eyes dark; antennae brown; mouthparts dark brown. Thorax brown, pronotum dark brown, with brownish longitudinal stripe on each side of midline; wings more or less brown; legs brown.



Figs 1 – 4. *Rhopalopsole longtana* sp. nov. (male). 1. Terminalia, dorsal view. 2. Terminalia, lateral view. 3. Tergum 10, lateral view. 4. Epiproct, dorsal view. Cp. Central plate. Lp. Lateral projection. Pp. Paraproct. S9. Sternum 9. Sgp. Subgenital plate. T9 – 10. Terga 9 – 10. V. Vesicle.

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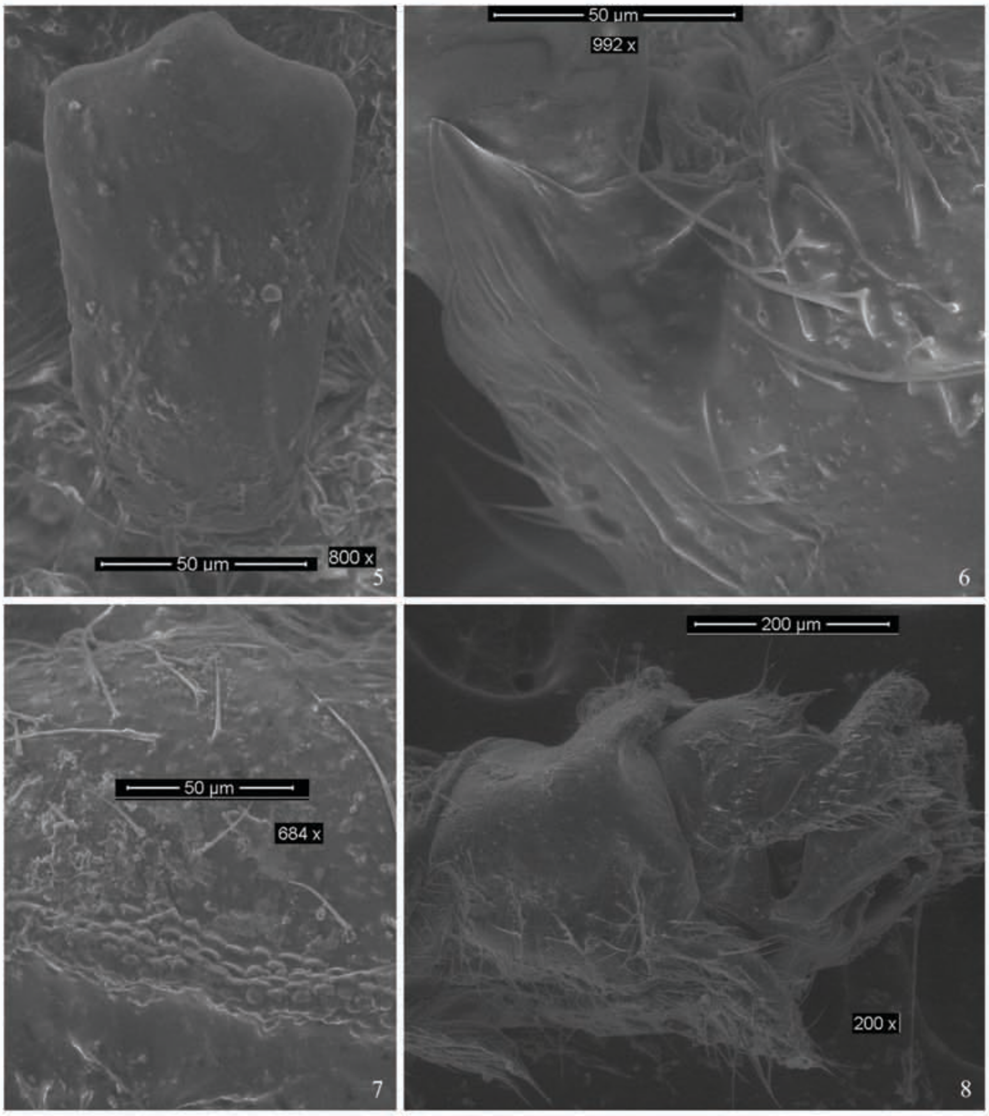

Figs 5 – 8. SEM micrographs, *Rhopalopsole longtana* sp. nov. (male). 5. Epiproct, dorsal view. 6. Lateral projection of tergum 10, dorsal view. 7. Ridge and projection of tergum 9, dorsal view. 8. Terminalia, lateral view.

Abdominal segments 1 – 4 brownish, the remainder dark brown; hypopygium including cerci dark brown.

Terminalia (Figs 1 – 8). Tergum 9 weakly sclerotized but median portion heavier so, sclerotized, anterior margin triangularly incised, posterior portion with a transversely sclerotized ridge and sclerotized triangular posteromedian projection, posterior margin produced into a pair of obtuse lobes medially. The transverse ridge of tergum 9 slightly with scales and tiny knobs distad, while the posteromedian projection triangular and spine-like in shape, and the posterior paramedian lobes smoothly sclerotized besides several short clothing hairs. Sternum 9 proximally with tongue-like vesicle bearing dense hairs, slightly longer than wide, distally with distinct subgenital plate rounded and wider than long. Tergum 10 with strongly sclerotized lateral projections extending posteriad into a sloping subquadrate plate; terminal lobe of lateral plate small, hook-like, and curved inward, forming an acute angle with the lateral plate; central plate nearly rectangular and trilobed, lateral lobes bear small roughage on inner part besides the clothing hairs and elevated, of which the left lobe bears a distinct spine, median lobe concaved, with no ornamentation; transverse bars large, triangular, and somewhat inflated on hind margin. Cercus L-shaped, with no distal spine. Epiproct rather thick, heavily sclerotized at lateral margins, forming a separable line with ventral surface in lateral view, proximally wide in dorsal view and gradually widened toward the triangular apex, which forms a small distal point and a subdistal point in lateral view. Paraproct enlarged and slightly concaved apically, in lateral view somewhat inflated, with a pair of ventral lobes proximally and a separable distal lobe dorsally, dark inner structures in dorsal lobe visible through the cuticle, bearing a row of tiny spines along its outer margins and a large curved distal spine, in obliquely lateral view the structures seem consisting of several teeth like spinulose slice.

Female. Unknown.

Holotype ♂, China, Ningxia, Jingyuan, Longtan, 1 880 m, 5 July 2008, LIU Jing-Xian.

Distribution. China (Ningxia).

Etymology. The epithet refers to its type locality, Longtan.

Remarks. The new species shares several characters with members of the *Rhopalopsole shaanxiensis* group: the ornamentation on tergum 9, structures on tergum 10, large and complex paraproct and the group-typical cerci. It seems somewhat related to *R. qinlinga* Sivec & Harper among presently known congeners, but it can be easily distinguished from the latter by tergum 9 with one linearly sclerotized ridge, a small sclerotized triangular posteromedian spine, and two paramedian lobes posteriorly. Additionally, the paraproct has five teeth and a large curved distal spine. In *R. qinlinga*, tergum 9 has no ridge and the paraproct bears strong dark hook and projections (Sivec *et al*., 2008).

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中国陕西诺𫌀种团（襀翅目，卷𫌀科）一新种记述

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摘 要 记述宁夏卷𫌀1新种，即龙潭诺𫌀 *Rhopalopsole longtana* sp. nov.，并讨论了其与近似种的区别。模式标本保存在中国农业大学博物馆。

龙潭诺𫌀，新种 *Rhopalopsole longtana* sp. nov.（图1～8）

新种与秦岭诺𫌀 *R. qinlinga* Sivec & Harper, 2008 近似，肛侧突大型，具强骨化的刺突，同属于陕西诺𫌀种团。二者的主要区别在于：新种雄虫第9背板后缘中部有1隆起的横脊和三角形刺突，其两侧各有1个向后延伸的叶状突，肛上突端部三角形。而秦岭诺𫌀雄虫第9背板无刺突，后缘略平直，肛上突端部圆钝。

正模♂，宁夏泾源龙潭，2008-07-05，刘经贤采。

词源：新种种名以采集人的姓氏命名。

关键词 襀翅目，卷𫌀科，诺𫌀属，新种.

中图分类号 Q969.24